

REMARKS

Reconsideration and withdrawal of the rejection and the allowance of all claims now pending in the above-identified patent application (*i.e.*, Claims 28-42) are respectfully requested in view of the foregoing amendments and the following remarks.

At the outset, it should be recognized that the presently claimed invention provides a packaging apparatus, which may be utilized for the packaging of various types of goods, such as foods, which involve a large number of processes (*e.g.*, feeding the packaging material or container, filling the container, closing the container and labeling the packaged goods) and which must be carefully coordinated with one another. Each of these process packaging steps, in turn, is subdivided into a large number of individual steps which are required to take place synchronously with one another.

The present invention for a packaging apparatus, as claimed, is equipped with sensors, actuators and a drive system, having a servo motor, a central control unit and a system for data transmission. The actual values of the sensors, actuators and the drive system are recorded, in digital form, in each case, and transferred, with the use of a transmission protocol, via the data transmission system to the central control unit. The central control unit evaluates the data and determines setpoint values or control commands, which are transmitted, in digital form, from the control unit by the data transmission system to the actuator or drive system. The data transmission between the sensors, actuators, drive system and the central control unit takes place wirelessly and the transmission protocol operates cyclically and with short cycle times, preferably in millisecond

pulses.

In contrast to the prior art, the transmission protocol serves for synchronization of all sensors, actuators and drives, prepares the actual values and the determined setpoint data of all drives in each cycle, with the accuracy of the synchronization being in the microsecond range. The transmission protocol of the invention maintains essential information redundantly and eliminates errors in data transmission, preferably by the HDLC procedure.

As will be explained in greater detail hereinafter, nowhere in the prior art is such a novel and efficient packaging machine, useful for packaging containers, such as a multiplicity of food boxes and jars, for which the accuracy of the time synchronization is in the microsecond range, either disclosed or suggested.

By the present amendments, Applicants have cancelled all previously presented claims and have substituted therefor new Claims 28-42; Claim 28 being the single independent claim now pending in the application. New independent Claim 28, as did Applicants' prior independent claim, continues to recite that the "accuracy of said synchronization [is] in a microsecond range."

Applicants' newly-entered set of claims deletes the subject matter, previously recited in dependent Claim 20, which formed the basis for the Examiner's 35 U.S.C. §112, second paragraph, indefiniteness rejection of this claim, which rejection Applicants now respectfully submit is moot.

Further, new dependent Claim 41, which corresponds to prior dependent Claim 27, corrects the typographical error noted by the Examiner to exist in Claim 27, and which formed the basis of a formal claim objection to prior Claim 27.

New Claims 28-41 “track” the claims entered by Applicants’ *Preliminary Amendment*, filed January 5, 2006, except for the cancellation of the subject matter of dependent Claim 20. New dependent Claim 42 has been added to recite the preferred embodiment of “data redundancy” in the transmission protocol for the wireless transmission means for eliminating errors in data transmission.

Finally, Applicants and their Attorney wish to thank the Examiner for noting the claim numbering error that existed in the *Preliminary Amendment*, filed January 5, 2006, and apologize to the Examiner for any inconvenience that may have been caused as a result. By cancelling all previously presented claims and entering new Claims 28-42, the prior error in numbering the claims for this application has been rendered moot.

Turning now, in detail, to an analysis of the Examiner’s prior art rejection, in the first Office Action the Examiner has rejected the subject matter of prior independent Claim 14 (now corresponding to independent Claim 28) as being anticipated, pursuant to 35 U.S.C. §102(e), by Johnson, U.S. Patent No. 6,788,980. It is the Examiner’s contention that Johnson discloses a packaging machine comprising all of the structural elements as recited in Applicants’ independent claim, including “time synchronization” and means for eliminating errors in the means for data transmission and the means for transmission in digital format. It is the Examiner’s stated position that all standard wireless protocols

include “error correction” built into the transmission system, since wireless data loss is very common and an error correction system is “necessary” and, presumably, inherent in the applied prior art.

In reply to the Examiner’s 35 U.S.C. §102(e) anticipation rejection applying Johnson, the applied citation teaches (at Col. 14, lines 35 – 38) that:

“The illustrated control system **10** [of Johnson] supports time synchronization to the millisecond in each station on the network **46**. Where equipment configuration renders this impossible, time synchronization to 50 ms [milliseconds] is provided.”

Johnson explains that the “control system” disclosed therein is able to support time synchronization as measured in milliseconds. As explained in Applicants’ Specification, at Page 4, lines 14 – 15: “The accuracy of the synchronisation and the preparation here lies in the microsecond range.” (emphasis added) Applicants’ independent Claim 28, likewise, recites:

“ . . . a synchronization of said plurality of sensors, said plurality of actuators and said drive system with time-dependent action and further providing said actual values and said setpoint values or control commands for said drive system in each cycle and accuracy of said synchronization in a microsecond range; . . . ”

It is respectfully contended that, not only does Johnson not disclose an apparatus capable of time synchronization in a “microsecond range,” but suggests that “equipment configurations” might render impossible even a millisecond level of time synchronization, and that synchronization of approximately 50 milliseconds might more likely be expected.

A smaller unit of time synchronization would, of course, render the coordination required of the packaging apparatus of the claimed invention more precise and accurate,

as compared to the prior art apparatus of the applied reference. Further, the present invention, as recited in independent Claim 28, includes “means for eliminating errors in said means for data transmission,” which is not disclosed by Johnson and which may – or may not? – be inherent in the apparatus taught by Johnson.

In summation, because the packaging apparatus of the present invention is capable of time synchronization in the “microsecond range,” while the applied prior art seeks, at best, to acquire a level of time synchronization in the range of a millisecond, but states that “equipment configuration” might, more likely, yield a level of time synchronization of approximately 50 milliseconds and, further, because the claimed invention includes means for eliminating errors in data transmission, which Johnson does not explicitly teach, it is respectfully contended that the applied citation of Johnson neither anticipates nor renders obvious the presently claimed invention.

In light of the foregoing, withdrawal of the 35 U.S.C. §102(e) anticipation rejection of the first Office Action, which applies Johnson, is respectfully requested.

In view of the foregoing, it is respectfully contended that all claims now pending in the above-identified patent application (*i.e.*, Claims 28-42) recite a novel and efficient packaging machine, useful for packaging containers, such as a multiplicity of food boxes and jars, for which the accuracy of the time synchronization is in the microsecond range, which is patentably distinguishable over the prior art. Accordingly, withdrawal of the

outstanding rejection and the allowance of all claims now pending are respectfully requested and earnestly solicited.

Respectfully submitted,

ERWIN FERTIG/THOMAS CORD

By 
Edwin D. Schindler
Attorney for Applicants
Reg. No. 31,459

PTO Customer No. 60333

Five Hirsch Avenue
P. O. Box 966
Coram, New York 11727-0966

(631)474-5373

May 18, 2007

The Commissioner for Patents is hereby authorized to charge the Deposit Account of Applicant's Attorney (*Account No. 19-0450*) for any fees or costs pertaining to the prosecution of the above-identified patent application, but which have not otherwise been provided for.